



Member's report on activities related to ICRI

Reporting period October 2013–September 2014

1. Updates on your activities.

Project 1

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science& Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)
Project Title	UNDP-GEF Project “Mainstreaming and Sustaining Biodiversity Conservation in three Productive Sectors of the Sabana-Camaguey Ecosystem”
Location	Archipiélago Sabana-Camagüey, Cuba (north central Cuba)
Dates	2009 to 2015
Main Organizer(s)	Environment Agency of the of the Ministry of Science, Technology and Environment
Main Stakeholder(s)	Tourism, fishery, and agriculture-cattle rising-forestry productive sectors; governments and local communities, research centers, environmental management institutions, etc.
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	The project is the third and final phase of the Program and would promote operational changes within the tourism, fisheries and agriculture sectors to ensure biodiversity conservation across the sea and landscape that make up 80% of the archipelago.
Outcome (Expected outcome)	(i) A strengthened enabling environment will exist for the financial, institutional, environmental and social sustainability of biodiversity conservation in the tourism, fisheries and agriculture-livestock sectors in the SCE; (ii) The tourism sector develops in accordance with the conservation of marine and terrestrial ecosystems within the SCE; (iii) Sustainable fisheries are practiced within the SCE so that fish populations and marine ecosystem functions are maintained and/or restored; and (iv) The sugar cane industry transitions into sustainable land use practices, with greatly reduced negative impacts on the coastal region of the SCE.
Lessons learned	<ul style="list-style-type: none"> • Implementation and performance assessment of Integrated Coastal Management led by local governments and assisted by relevant knowledge and science. Capacity building on relevant issues was crucial. • Application and replication of demonstrative environmental friendly fishery, tourism, agriculture, cattle rising and forestry practices. • Need of full involvement and interactive participation of local and national level governments, productive sectors and community in

	<p>sustainable development by protecting biodiversity.</p> <ul style="list-style-type: none"> Application of economic valuation of biodiversity and environmental services to convince government, productive sectors and local communities about the need to protect and use them in a sustainable way.
Related websites (English preferred)	www.proyesc.cu

Project 2

Cornerstone(s) implemented through the project	<p>Check all that apply:</p> <p><input type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building</p> <p><input type="checkbox"/> Science & Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)</p>
Project Title	Advances in adaptation strategies to climate change to increase the acroporid coral resilience in Cuba, north Yucatán, and south Florida.
Location	Eastern part of Gulf of Batabanó, SW Cuba
Dates	January 2011 to June 2013
Main Organizer(s)	Institute of Oceanology of the of the Ministry of Science, Technology and Environment
Main Stakeholder(s)	Agencia de Medio Ambiente, Sistema Nacional de Áreas Protegidas and Ministerio de la Industria Alimenticia.
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>This research is the accomplishment of a task of the “Tri-national Cuba-Mexico-USA in Marine Sciences and Conservation of the Gulf of Mexico and the Western Caribbean”. It is worth to mention the support of Environmental Defence Foundation (EDF), Mote Marine Laboratory, The Nature Conservancy (TNC) and Ocean Research and Education Foundation (ORE).</p> <p>The project research personnel were financed by the Cuban Government. The sampling expedition was financed by the UNDP/GEF Project “Application of a regional approach to Marine Protected and Coastal Areas in the Southern Archipelagos of Cuba”.</p> <p>The project enabled to know the most probable causes of the resilience of the best conserved reef crest of Cuba (62% coral cover).The driving factors</p> <p>This project enabled to follow up changes in condition of a number reef that have been sampled by opportunity since 2001.</p>
Outcome (including expected outcome)	Several interrelated factors were apparently more linked to resilience. Four of them were considered as driving forces: shelter from waves, usual cyclonic revolving water circulation in the Ensenada de Cazon, nutrient input from the Ciénaga Zapata swamp and deep water, and the abundance of the herbivore sea urchin <i>Diadema antillarum</i> . Triggered by these driving forces, the remaining factors involved apparently were: less effect of waves and sediments; stabilization of live coral fragments; favorable benthic macro-algae indices; some retention of nutrient and plankton; increased coral heterotrophic feeding; better conditions for recruit settlement and viability, and for coral re-sheeting; faster coral growth and recuperation; and better thermal conditions against coral bleaching.
Lessons learned	Resilience is generated by a combination of factors that is specific for an area. There are driving force factors that generate chained and

	interrelated biological responses: wave shelter, nutrient availability (not in excess) to increase plankton as food for corals (heterotrophy); and herbivores (in this case, <i>Diadema antillarum</i>).
Related websites (English preferred)	www.redcien.cu (to get the resulting paper): Alcolado, P. M., Caballero, H., Lara, A., Rey-Villiers, N., Arriaza, L., Lugioyo, G. M., Alcolado-Prieto, P., Castellanos, S., Perera, S. & Rodríguez-García, A. (2013). Resiliencia en crestas de arrecifes coralinos del este del golfo de Batabanó, Cuba, y factores determinantes probables. <i>Serie Oceanológica</i> 13: 49-75.

Project 3

Cornerstone(s) implemented through the project	Check all that apply: <input checked="" type="checkbox"/> Integrated Management <input checked="" type="checkbox"/> Capacity Building <input checked="" type="checkbox"/> Science& Monitoring <input checked="" type="checkbox"/> Periodic Assessment (Review)
Project Title	UNDP-GEF Project “Application of a regional approach to management of Marine/coastal Protected Areas in the archipelagos of the South of Cuba”.
Location	Archipelagos of the South of Cuba
Dates	January 2010 to December 2014
Main Organizer(s)	National Centre of Protected Areas of the of the Ministry of Science, Technology and Environment
Main Stakeholder(s)	Fishery sector, local communities, research institutions, protected area managers, environmental management institution, and tourism sector.
Description of Project (Please elaborate on how the project implements the FFA cornerstones)	<p>The project would contribute to the overall goal of conserving globally important coastal and marine biodiversity in Cuba including fisheries resources of major regional importance, by creating capacities for the application of a regional approach to the management of marine and coastal protected areas in the Southern Archipelagos Region (which covers almost 6,000,000ha) as part of the country’s National Protected Areas System (SNAP).</p> <p>Its specific objective would be to ensure that globally significant marine biodiversity is conserved and sustainably used through an extended, strengthened and integrated network of coastal and marine protected areas in the Southern Archipelagos region.</p> <p>The project would result in the expansion of the protected area estate in order to fill cover key gaps in ecosystem coverage and promote connectivity and management efficiency. The resulting PA estate would be embedded in a series of Zones Under Integrated Coastal Management Regimes which would serve to buffer impacts from productive activities and strengthen the integration between conservation and production sectors.</p> <p>The specific objective is to contribute fish population regeneration and to the sustainable use of fishery resources of marine/coastal ecosystems in an area of the Caribbean in the south of Cuba and contribute to regional fishery sustainability in the Caribbean basin and increase incomes and life quality in general of the fishery communities of the region.</p>
Outcome (Expected outcome)	(i) Increased coverage of priority ecosystems by MPAs, related terrestrial PAs and associated management units within the

	<p>productive landscape and seascape.</p> <p>(ii) MPAs in the project area are subject to effective management within the framework of a regional protected area subsystem.</p> <p>(iii) Business planning and partnerships with productive sectors (Tourism and Fisheries) increase MPA revenues and cost efficiencies.</p>
Lessons learned	<ul style="list-style-type: none"> • Implementation and performance assessment of Integrated Coastal Management led by local governments and assisted by relevant knowledge and science. Capacity building on relevant issues was crucial. • Application and replication of demonstrative environmental friendly fishery and tourism. • Need of full involvement and interactive participation of local and national level governments, productive sectors (Tourism and Fisheries) and community in sustainable development by protecting biodiversity. • Application of economic valuation of biodiversity and environmental services to convince government, productive sectors and local communities about the need to protect and use them in a sustainable way.
Related websites (English preferred)	<p>www.snap.cu (to get the resulting paper): Hernández Ávila (Ed) 2013. En <i>Reporte de avance del Sistema de Monitoreo de la Biodiversidad</i>. Centro Nacional de Áreas Protegidas. La Habana. Cuba. Impresión. 153 p. ISBN:978-959-287-038-3</p>

2. Contribution to the ICRI Plan of Action and GM.

a. Engaging other sectors

In spite of great economic constraints, Cuba is distinguished by an advanced, but not necessarily perfect, inter-sectorial practice in economic, environmental management, conservation and emergency issues. Particularly, coral reefs are considered a prioritized ecosystem in National Adaptation Strategies to climate change and development. Climate change strategies and action plans are elaborated and executed by different relevant mechanisms following a full inter sectorial approach with the stakeholders that are relevant to the issues (e.g. local community and governments, fishery, tourism, agriculture-cattle rising-forestry sectors, local or national level research institutions, etc.). A great participation of science sector is worth to mention. Our reports to the Convention of Biological Diversity (CBD) can amply illustrate that issue in Cuba.

b. Reef zoning for multiple use

Location where a zoning plan has been implemented	
Year when the zoning plan was implemented	
Is the zoning plan accepted by the local community?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the zoning plan cause conflicts among stakeholders?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Did the zoning plan resolve conflicts among stakeholders?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Has there been effective enforcement for stakeholders to follow the zoning plan?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Overall, how would you rate the success of the zoning plan?	<input type="checkbox"/> Very successful <input type="checkbox"/> Somewhat successful <input type="checkbox"/> Not so successful <input type="checkbox"/> Unsuccessful

Coral reefs and marine shelf in general are zoned including Marine and coastal Protected Areas, Zones Under Special Regime of Use and Protection (alike to fishery reserves), and Zones of Special Restrictions. There are also specific Zones for lobster and shrimp fishing.

3. Publications.

Title (incl. author and date)	Website URL if available	Type of publication (Paper, report, etc.)
Alcolado, P. M., Caballero, H., Lara, A., Rey-Villiers, N., Arriaza, L., Lugioyo, G. M., Alcolado-Prieto, P., Castellanos, S., Perera, S. & Rodríguez-García, A. (2013). Resiliencia en crestas de arrecifes coralinos del este del golfo de Batabanó, Cuba, y factores determinantes probables. <i>Serie Oceanológica</i> 13: 49-75.	www.redcien.cu	Paper
Hernández Avila (Ed) 2013. En <i>Reporte de avance del Sistema de Monitoreo de la Biodiversidad</i> . Centro Nacional de Áreas Protegidas. La Habana. Cuba. Impresión. 153 pp. ISBN:978-959-287-038-3	www.snap.cu	Paper
Plan del Sistema Nacional de Áreas Protegidas 2014-2020. Centro Nacional de Áreas Protegidas. La Habana. Cuba. pp. ISBN:	www.snap.cu	Paper

4. General Information.

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Focal Point 2:	
Name:	MSc. Aylem Hernández Avila
Title/Organization:	National Center of Protected Areas (belonging to the National System of Protected Areas) of the Ministry of Science, Technology and Environment
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